

Amendments to the Claims

Claim 1 (currently amended): A method of isolating a desired nucleic acid from a biological solution, that may contain other species including nucleic acids, proteins, other high molecular weight compounds, salts and other low-molecular weight substances, which method comprises ~~to selectively precipitate~~ precipitating the desired nucleic acid, while leaving the other species in solution, by adding a polycationic precipitating agent to the solution and allowing it to form an insoluble complex with said desired nucleic acid, wherein the precipitating agent is a highly charged linear polymer that ~~comprises~~ includes quaternary amino groups, and further wherein the precipitating agent is added to the solution in the presence of a salt, wherein the in such an amount that the of said precipitating agent is sufficient to attain a charge ratio $[+]/[-]$ between ~~polycationic~~ the precipitating agent and nucleic acid is of ≥ about 0.5, preferably ≥ about 1, during the precipitation.

Claim 2 (currently amended): ~~A method according to~~ The method of claim 1, wherein the precipitating agent ~~comprises~~ includes at least 25 positive charges.

Claim 3 (currently amended): ~~A method according to~~ The method of claim 1-~~or~~2, ~~which comprises~~ further comprising a step of estimating the number of negative charges in the biological solution before addition of the precipitating agent.

Claim 4 (currently amended): ~~A method according to~~ any one of the preceding claims, The method of claim 1, wherein the desired nucleic acid is a plasmid.

Claim 5 (currently amended): A method according to any one of the preceding claims, The method of claim 1, wherein the biological solution is a cell lysate.

Claim 6 (currently amended): A method according to The method of claim 5, wherein the cell lysate is an alkaline cell lysate.

Claim 7 (currently amended): A method according to The method of claim 5 or 6, wherein the cell lysate is pre-treated before addition of the precipitating agent.

Claim 8 (currently amended): A method according to any one of the preceding claims, The method of claim 1, wherein the ratio of polymer molecular weight (gram per mol)/polymer charge (number of charges per polymer chain) in the precipitating agent is less than about 1000, preferably less than about 400.

Claim 9 (currently amended): A method according to The method of claim 8, wherein the precipitating agent comprises at least about 500, preferably at least about 1000, positive charges.

Claim 10 (currently amended): A method according to any one of the preceding claims, The method of claim 1, wherein the precipitating agent is selected from the group that consists of poly(N,N'-dimethyldiallylammonium chloride), an aliphatic ionene bromide and a poly(N-alkyl -4-vinylpyridinium halides halide).

Claim 11 (currently amended): A method according to any one of the preceding claims, The method of claim 1, wherein the salt concentration of the solution is controlled during the addition of the precipitating agent to allow the quantitative selective precipitation of the nucleic acid/polycation complex.

Claim 12 (currently amended): A method according to any one of the preceding claims, which also comprises to recover The method of claim 1, further comprising recovering the desired nucleic acid from the precipitate so formed by separating the precipitate from the solution and subsequent dissolution and/or destruction of the complex.

Claim 13 (currently amended): A method according to The method of claim 12, wherein the polyelectrolyte complex is dissolved and/or destructed by addition of a salt to free the desired nucleic acid in the solution.

Claim 14 (currently amended): A method according to The method of claim 12 or 13, wherein the dissolution and/or destruction of the complex is performed at a salt concentration above 0.5 M, preferably above 3 M, depending on the charge ratio [+] / [-] and salt nature.

Claim 15 (cancelled)

Claim 16 (currently amended): A method according to any one of claims 12-15, which comprises to isolate The method of claim 12, further comprising isolating a first desired nucleic acid from the first precipitation formed, to separate said first

precipitation from the biological solution and to precipitate a second desired nucleic acid from the remaining solution by a continued addition of precipitating agent.

Claim 17 (currently amended): ~~Use of a method according to any one of claims 1-16~~
The method of claim 1 for isolating nucleic acids that have been subjected to modification reactions.